

## CLAIMS:

1. Solid-bowl centrifuge, particularly a solid-bowl screw-type centrifuge, having
  - a) a centrifugal drum (1) rotatable about a horizontal axis of rotation,
  - b) which has a weir for draining a liquid out of the centrifugal drum (1),
  - c) which weir has a passage with at least one or more passage openings (5) in an axial end region or drum lid (3), characterized in that
    - d) in front of the drum lid (3) outside the centrifugal drum (1), a deflector plate (12) is arranged which is stationary during the operation and widens at least in sections away from the drum (3), which deflector plate (12) has an interior jacket whose distance with respect to the axis of rotation is not constant but is widening or enlarging.
2. Solid-bowl centrifuge according to Claim 1, characterized in that an annular gap (8, 8') is formed between the passage (4) and an orifice plate (6) outside the centrifugal drum or between the passage (4) and another component, which annular gap (8, 8') is preferably completely or partially surrounded over its axial dimension by the widening deflector plate (12).
3. Solid-bowl centrifuge according to Claim 1 or 2, characterized in that, on the interior jacket (7), the widening deflector plate (12) has an opening angle  $\gamma$  with respect to a plane (e) extending perpendicular to the axis of rotation (D) of the drum or parallel to the drum lid (3), which opening angle  $\gamma$  is greater than  $0^\circ$  or smaller than  $90^\circ$ .
4. Solid-bowl centrifuge according to one of the preceding claims, characterized in that the deflector plate has a ring-type, conically widening shape.
5. Solid-bowl centrifuge according to one of the preceding claims, characterized in that the liquid first flows axially to the outside from the drum until it impacts on a wall or plate, from which it essentially sprays radially to the outside,

impacting upon the widening deflector plate which prevents the exiting liquid from arriving directly radially on the wall(s) 9 of the collecting chamber, so that the development of noise is reduced.

6. Solid-bowl centrifuge according to one of the preceding claims, characterized in that the widening deflector plate (12) on the interior jacket (7) has an angle of  $90^\circ - \gamma$  with respect to the axis of rotation (D) of the drum, which angle is greater than  $0^\circ$  or smaller than  $90^\circ$ .

7. Solid-bowl centrifuge according to one of the preceding claims, characterized in that the smallest inside diameter of the deflector plate (12) is larger than the outside diameter on which the passage openings (5) are arranged.

8. Solid-bowl centrifuge according to one of the preceding claims, characterized in that the deflector plate axially directly adjoins the passage openings (5).

9. Solid-bowl centrifuge according to one of the preceding claims, characterized in that a projection (19), which protrudes axially from the drum lid, is formed at the passage openings (5), the deflector plate (12) axially overlapping this projection (19).

10. Solid-bowl centrifuge according to one of the preceding claims, characterized in that the opening angle ( $\gamma$ ) of the deflector plate (12) is between  $5^\circ$  and  $45^\circ$ .

11. Solid-bowl centrifuge according to one of the preceding claims, characterized in that the opening angle ( $\gamma$ ) of the deflector plate (12) is between  $10^\circ$  and  $30^\circ$ .

12. Solid-bowl centrifuge according to one of the preceding claims, characterized in that the opening angle ( $\gamma$ ) of the deflector plate (12) is constant.

13. Solid-bowl centrifuge according to one of the preceding claims, characterized in that the opening angle ( $\gamma$ ) of the deflector plate (12) changes over its axial dimension and/or in the circumferential direction.

14. Solid-bowl centrifuge according to one of the preceding claims, characterized in that the opening angle ( $\gamma$ ) of the deflector plate (12) changes continuously or suddenly, particularly is enlarged, over the axial course of the deflector plate (12).

15. Solid-bowl centrifuge according to one of the preceding claims, characterized by a multipart, particularly two-part further development of the deflector plate (12).

16. Solid-bowl centrifuge according to one of the preceding claims, characterized in that the distance between the passage (4) and the orifice plate (6) is variable.

17. Solid-bowl centrifuge according to one of the preceding claims, characterized by a further development as a solid-bowl screw-type centrifuge having a rotatable screw (2) arranged in the centrifugal drum (1).

18. Solid-bowl centrifuge according to one of the preceding claims, characterized in that the deflector plate (12) is fastened to a surrounding wall (9, 10) by way of bolts (15 or 16) in an axial orientation.

19. Solid-bowl centrifuge according to one of the preceding claims, characterized in that the deflector plate (12) is fastened to a surrounding wall (9, 10) by way of bolts (15 or 16) in a radial orientation.

20. Solid-bowl centrifuge according to one of the preceding claims, characterized in that the deflector plate (12) is fastened to a surrounding wall (9, 10) by way of a ring (17).